ELOS2829495US

1/8

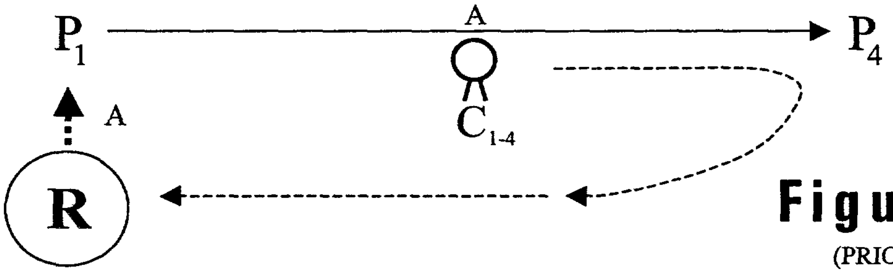


Figure 1

(PRIOR ART)

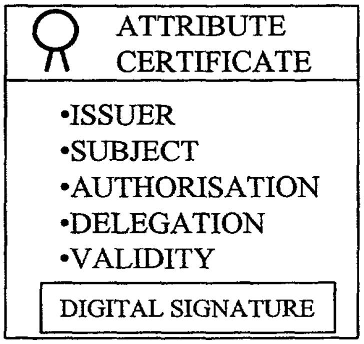
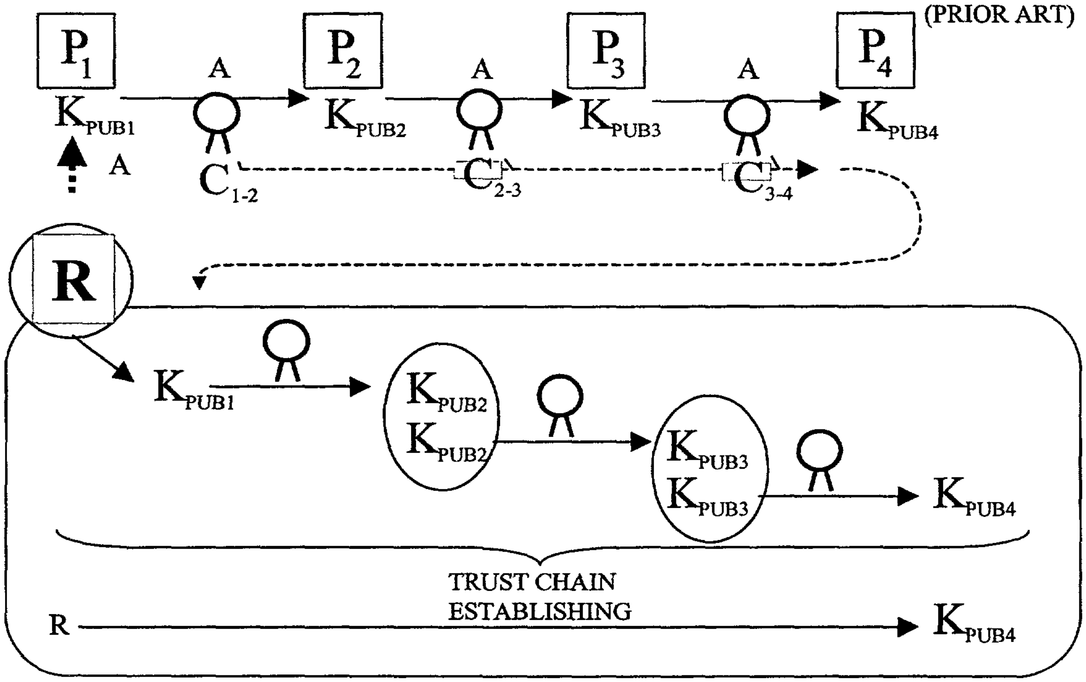


Figure 2

(PRIOR ART)

Figure 3

(PRIOR ART)



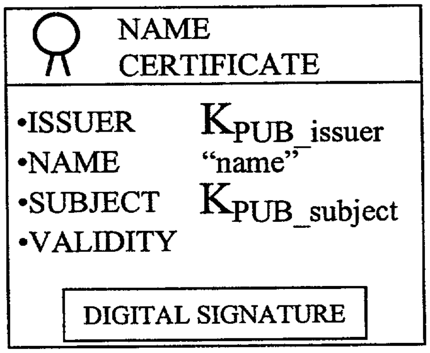


Figure 4

(PRIOR ART)

$$K_{PUB\_issuer} \cdot \text{“name”} = K_{PUB\_subject}$$

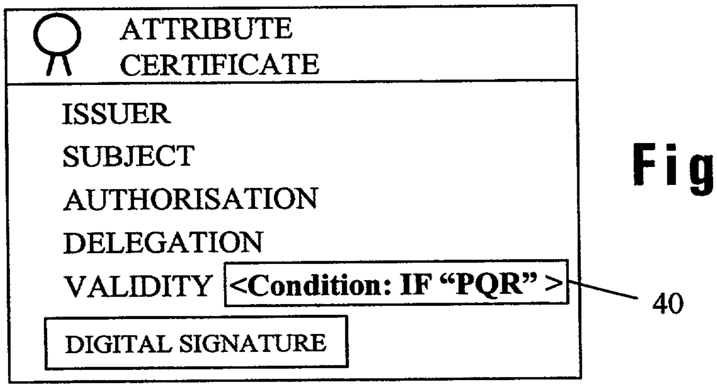
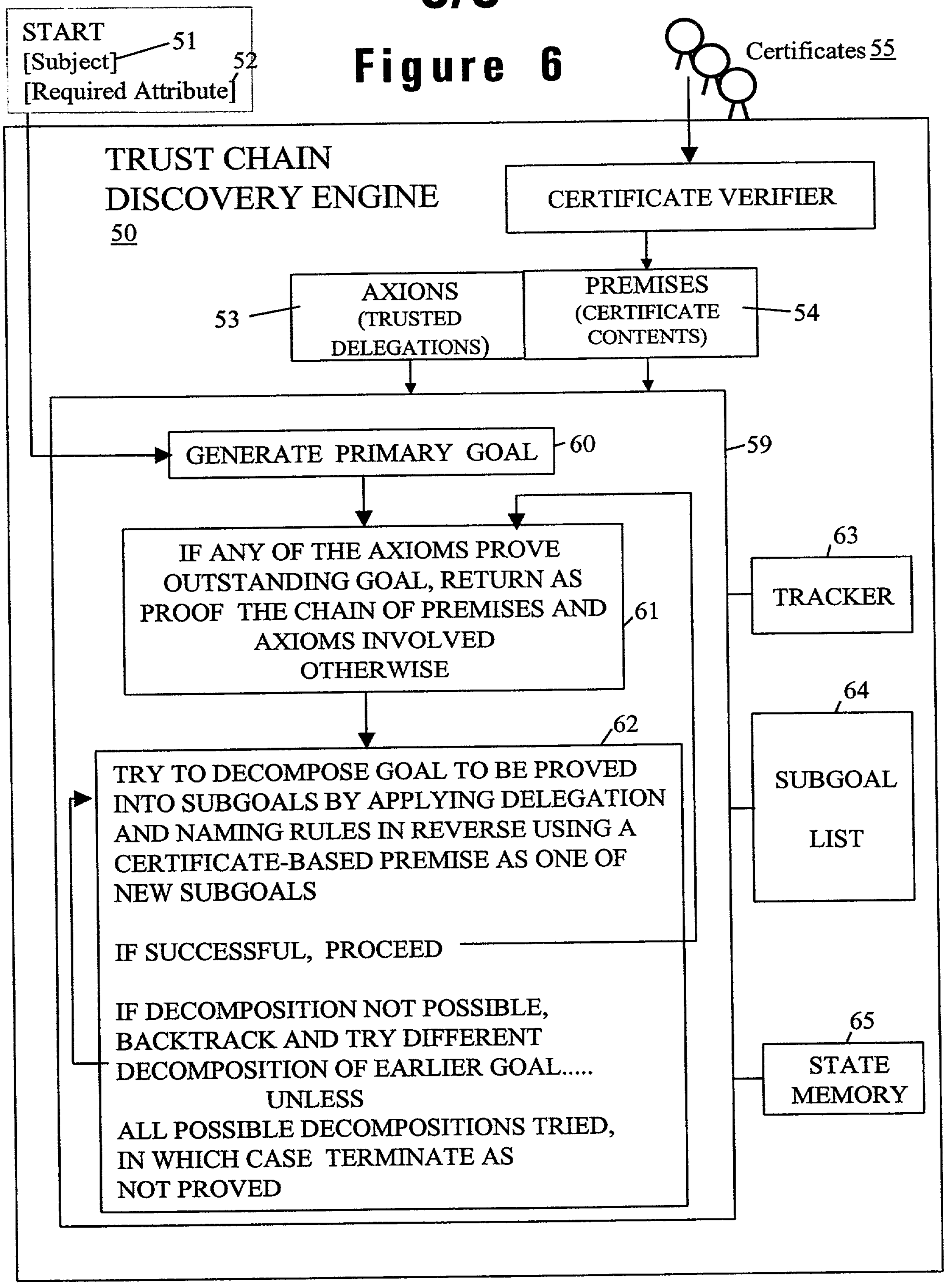


Figure 5

Figure 6


START
[Subject]
51
52
[Required Attribute]
Certificates 55
TRUST CHAIN DISCOVERY ENGINE 50
CERTIFICATE VERIFIER
53
AXIONS (TRUSTED DELEGATIONS)
PREMISES (CERTIFICATE CONTENTS)
54
GENERATE PRIMARY GOAL
60
59
63
TRACKER
IF ANY OF THE AXIOMS PROVE OUTSTANDING GOAL, RETURN AS PROOF THE CHAIN OF PREMISES AND AXIOMS INVOLVED OTHERWISE
61
64
SUBGOAL LIST
62
TRY TO DECOMPOSE GOAL TO BE PROVED INTO SUBGOALS BY APPLYING DELEGATION AND NAMING RULES IN REVERSE USING A CERTIFICATE-BASED PREMISE AS ONE OF NEW SUBGOALS
IF SUCCESSFUL, PROCEED
IF DECOMPOSITION NOT POSSIBLE, BACKTRACK AND TRY DIFFERENT DECOMPOSITION OF EARLIER GOAL.....
UNLESS
ALL POSSIBLE DECOMPOSITIONS TRIED, IN WHICH CASE TERMINATE AS NOT PROVED
65
STATE MEMORY

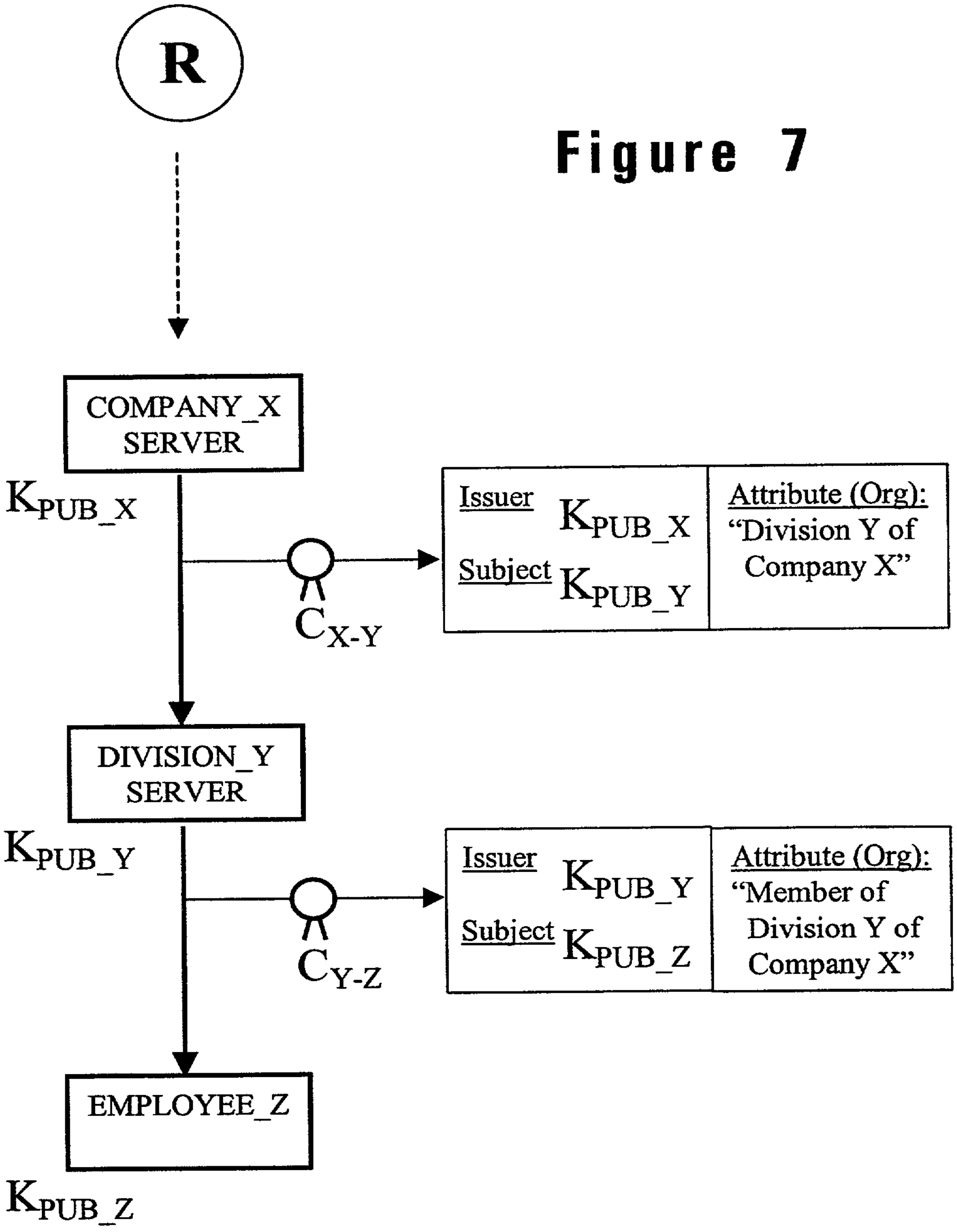

R
COMPANY_X SERVER
K_{PUB_X}
Issuer K_{PUB_X}
Subject K_{PUB_Y}
Attribute (Org):
"Division Y of Company X"
$C_{X\text{-}Y}$
DIVISION_Y SERVER
K_{PUB_Y}
Issuer K_{PUB_Y}
Subject K_{PUB_Z}
Attribute (Org):
"Member of Division Y of Company X"
$C_{Y\text{-}Z}$
EMPLOYEE_Z
K_{PUB_Z}

Figure 7

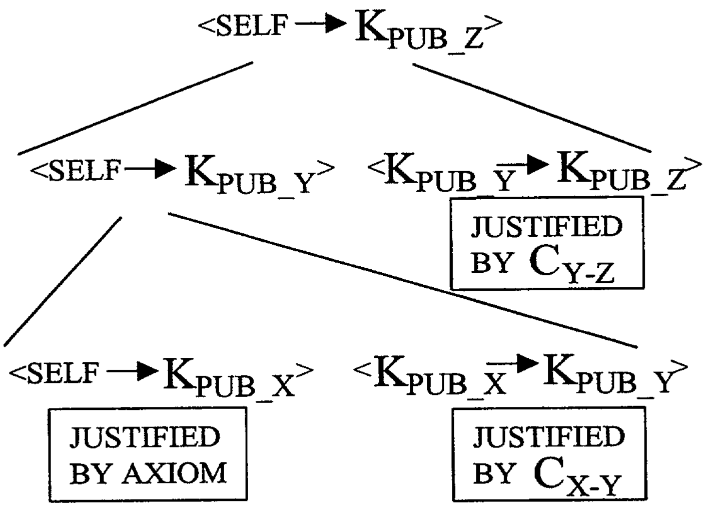
RESOURCE REQUIRES:	REQUESTOR IS MEMBER OF ACCREDITED ORGANISATION
C_{X-Y} PREMISES C_{Y-Z}	$K_{PUB\_X} \xrightarrow[\text{Company X"}]{\text{"Division Y of}} K_{PUB\_Y}$ $K_{PUB\_Y} \xrightarrow[\text{Division Y of Company X"}]{\text{"Member of}} K_{PUB\_Z}$
RELEVANT AXIOM	$SELF \xrightarrow{\text{Company X}} K_{PUB\_X}$
PRIMARY GOAL	 <SELF → K_PUB_Z> <SELF → K_PUB_Y> <K_PUB_Y → K_PUB_Z> JUSTIFIED BY C_Y-Z <SELF → K_PUB_X> <K_PUB_X → K_PUB_Y> JUSTIFIED BY AXIOM JUSTIFIED BY C_X-Y
FIRST DECOMPOSITION	
SECOND DECOMPOSITIN	

Figure 8

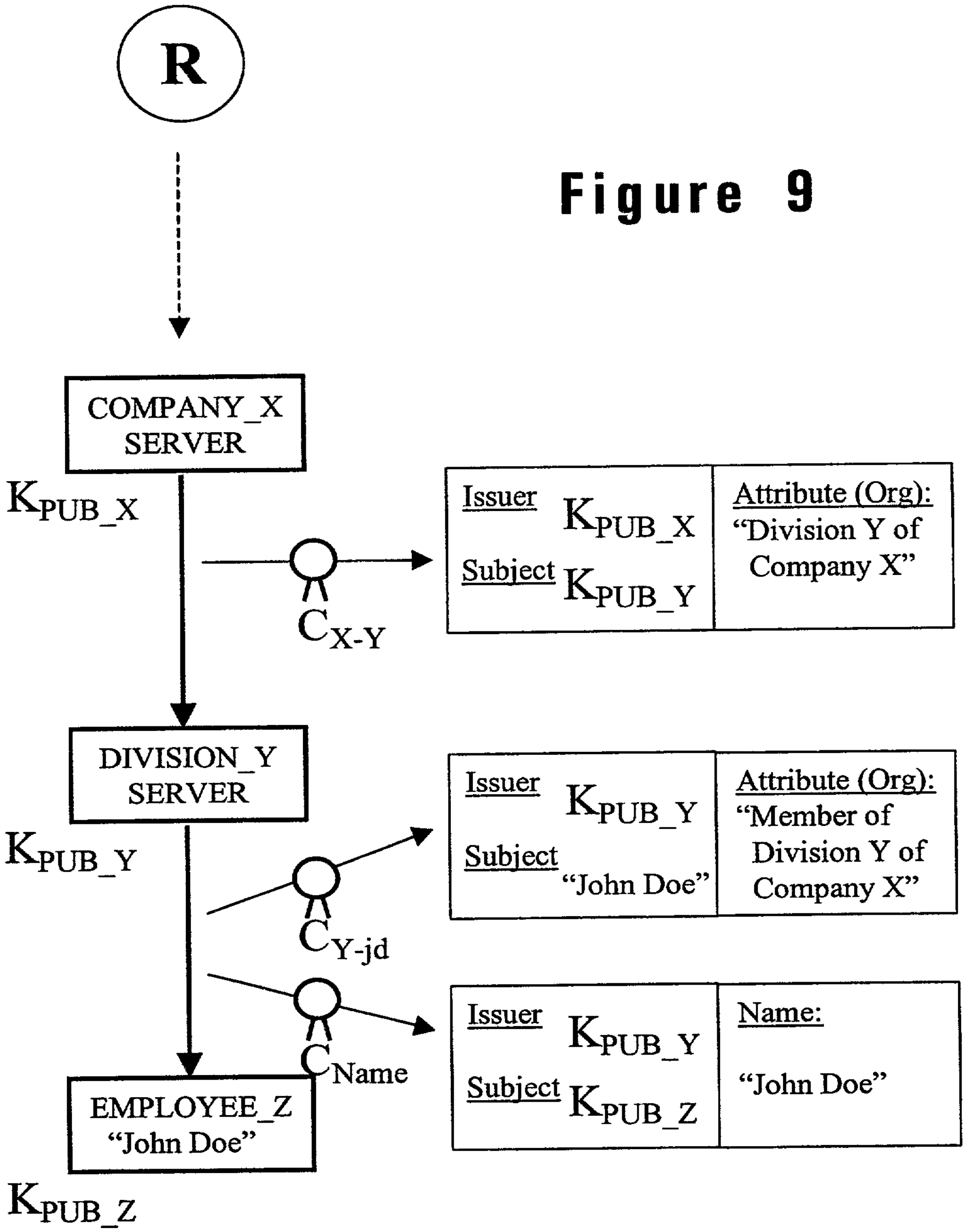

R
COMPANY_X SERVER
K_{PUB_X}
C_{X-Y}
Issuer K_{PUB_X}
Subject K_{PUB_Y}
Attribute (Org): "Division Y of Company X"
DIVISION_Y SERVER
K_{PUB_Y}
C_{Y-jd}
Issuer K_{PUB_Y}
Subject "John Doe"
Attribute (Org): "Member of Division Y of Company X"
C_{Name}
Issuer K_{PUB_Y}
Subject K_{PUB_Z}
Name: "John Doe"
EMPLOYEE_Z "John Doe"
K_{PUB_Z}

Figure 9

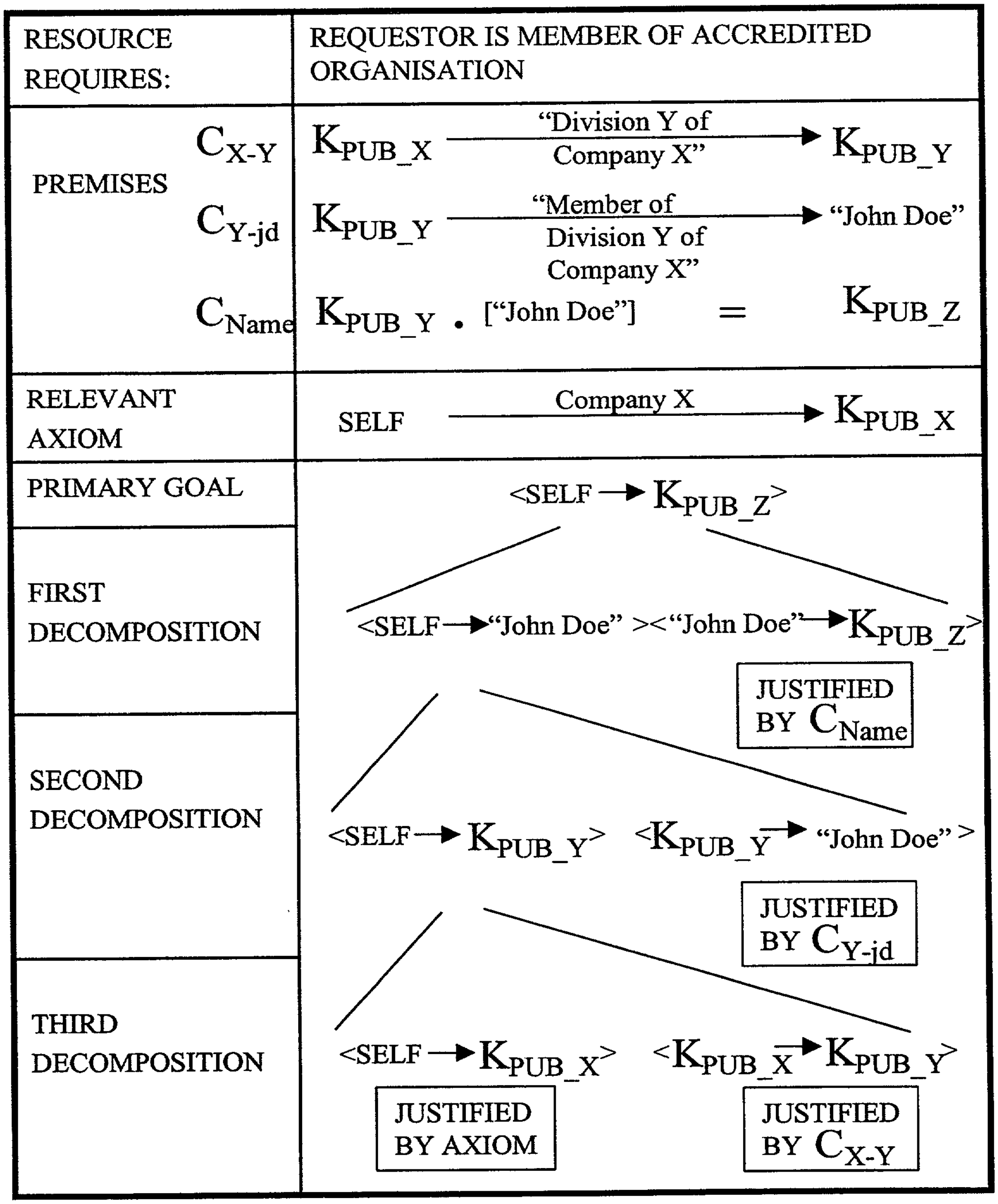

RESOURCE REQUIRES:
REQUESTOR IS MEMBER OF ACCREDITED ORGANISATION
PREMISES
$C_{X\text{-}Y}$
$K_{PUB\_X} \xrightarrow[\text{Company X"}]{\text{"Division Y of}} K_{PUB\_Y}$
$C_{Y\text{-}jd}$
$K_{PUB\_Y} \xrightarrow[\text{Division Y of Company X"}]{\text{"Member of}}$ "John Doe"
C_{Name}
$K_{PUB\_Y} \cdot$ ["John Doe"] $= K_{PUB\_Z}$
RELEVANT AXIOM
SELF $\xrightarrow{\text{Company X}} K_{PUB\_X}$
PRIMARY GOAL
<SELF → K_{PUB_Z}>
FIRST DECOMPOSITION
<SELF → "John Doe" ><"John Doe" → K_{PUB_Z}>
JUSTIFIED BY C_{Name}
SECOND DECOMPOSITION
<SELF → K_{PUB_Y}> <K_{PUB_Y} → "John Doe" >
JUSTIFIED BY $C_{Y\text{-}jd}$
THIRD DECOMPOSITION
<SELF → K_{PUB_X}> <K_{PUB_X} → K_{PUB_Y}>
JUSTIFIED BY AXIOM
JUSTIFIED BY $C_{X\text{-}Y}$

Figure 10

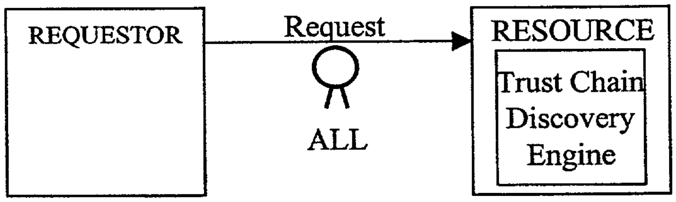


Figure 11

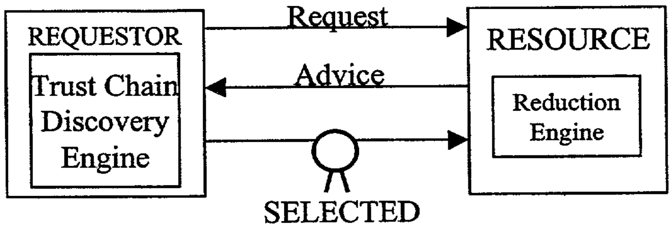


Figure 12

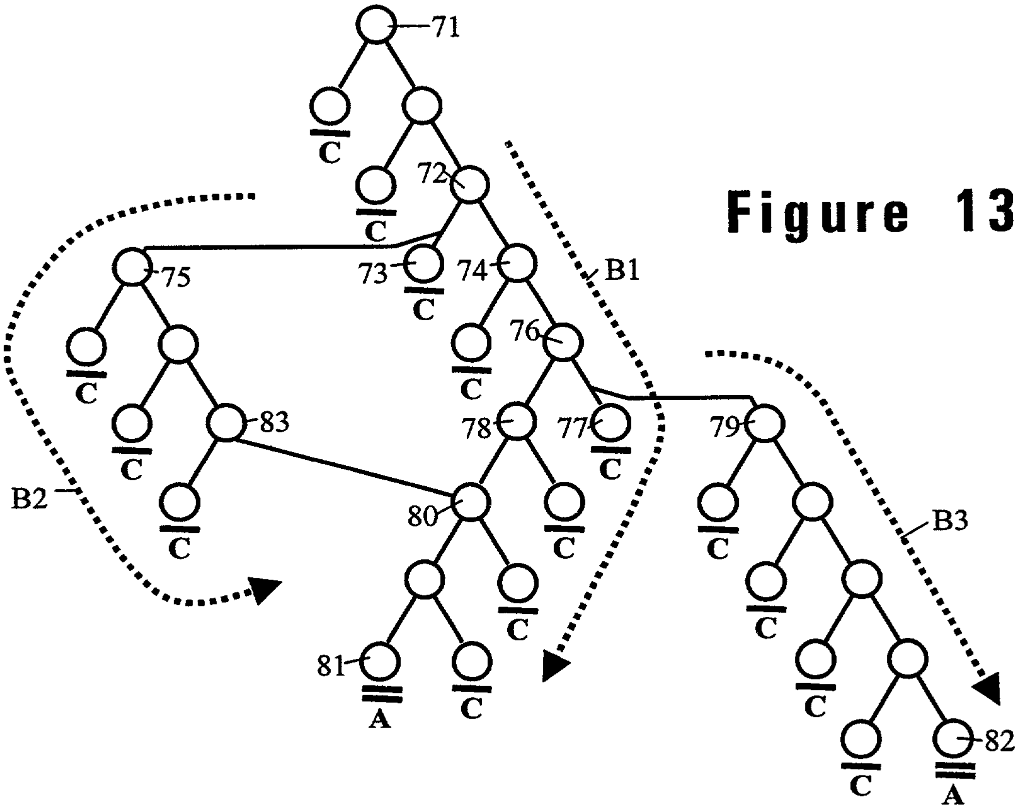


Figure 13